EDITORIAL

Is public access to surgeon-specific data affecting practice adversely?

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Outcome data from operations performed by individual cardiac surgeons in the UK have been available to the public in one form or another for 2 years now. Using the (then) new powers given under the Freedom of Information Act to gather data by requesting information from the chief executives of National Health Service Trusts undertaking cardiac surgery, *The Guardian* published the mortality for individual surgeons' coronary artery bypass graft (CABG) operations in March 2005. Although the data were flawed (in that some units returned financial year data, some calendar year, some included re-operations, others did not) the Rubicon had been crossed. With the active support of the Society for Cardiothoracic Surgery, the Healthcare Commission now publishes individual surgeons' mortality data for CABG and also for all cardiac surgical operations. These data are presented as the average of 3 years results and are available online (http://www.heartsurgery.healthcarecommission.org.uk). Against these figures are shown the expected range of mortality for these procedures along with an indication as to whether the results are as expected, better than expected or worse than expected. The data are presented as part of an information page about each cardiac unit.

Aside from concerns that publication of individual results would lead to the development of league tables (and that surgeons towards the bottom would be unjustly vilified), several other arguments were made against such publication. It was cogently argued that the publication of individual results did not reflect the teamwork involved in cardiac surgery, that the data were not yet ''robust and risk adjusted'' and, most importantly, that publication would lead to risk-averse behaviour by surgeons and as a consequence of this new era of openness, high-risk patients would suffer as a result of not being offered cardiac surgery when appropriate.

The article by Bridgewater *et al*[1] from the North West Quality Improvement Programme is an important step in dispelling fears of such ''risk-averse behaviour''. The North West Quality Improvement Programme comprises the four regional cardiac units at Blackpool, Liverpool, Manchester Royal Infirmary and Wythenshawe hospitals. This audit group is unique in the UK, and because of the drive of some key individuals and the support of all the surgeons involved, it is able to produce data of the highest quality. The group reviewed data on all first-time CABG operations performed between 1997 and 2005; about 25 730 patients. They found that although the observed mortality fell during that period from 2.4% to 1.8%, the expected mortality (as calculated using EuroSCORE (http://www.euroscore.org/)) rose from 3.0% to 3.5%—that is, surgeons are operating on more complex patients and obtaining better results. Further analysis of the risk assessments also revealed that the proportion of high-risk and of very high-risk patients (EuroSCORE 6–10 and >10, respectively) also increased significantly over the period. Although it would not be appropriate to make judgments on how all UK cardiac surgeons approach high-risk cases, this paper provides strong evidence that risk-averse behaviour not occurring, but also the standard of surgery has improved despite a more difficult case mix. Bearing in mind the experience of the authors, it seems reasonable to assume that UK cardiac surgeons have responded to publication of their results by driving up the quality of their performance, and also that of the teams in which they work. If that is indeed the case, then it does provide justification for their publication.

The North West Group is to be congratulated on its enthusiasm and diligence. It is leading the way, and other surgical groups in the UK should follow. The members meet regularly to discuss each other's performance and how to improve it—such continuous quality improvement is the audit loop in action. Data produced by willing contributors, aided by those with appropriate expertise in data collection and analysis, will always be stronger than national data, which are variably complete. Expertise in data collection and analysis is important to the continued success of both local audit and national programmes such as the Healthcare Commission's public portal. It refers to a properly staffed audit department with appropriate networked database facilities as opposed to the work of a single enthusiast. Many units still lack these facilities.

The mortality for CABG in the North West is now nearly half that predicted by our most widely used risk assessment system (observed mortality 1.8% vs EuroSCORE-predicted mortality 3.5%). This begs the question, is EuroSCORE still viable as a risk assessment tool for UK practice? I think it is, but rigorous peer review as exemplified in the North West leads to improved quality of data collection which will allow more sensitive local risk assessment algorithms to be used in addition

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Abbreviation: CABG, coronary artery bypass graft

to EuroSCORE. This, in turn, will enable patients to be given more accurate information about the risks they face in undergoing cardiac surgery.

The group assessed the effect that training junior surgeons had on outcomes in 2002 and reported that training did not affect the mortality associated with CABG.[2] It will be interesting to assess the effect that the publication of individual consultants' outcomes has on the training of future surgeons. The authors have also identified that their work could be strengthened if they could include all patients referred for surgery in the study rather than those who were operated on. They should be encouraged to conduct both these studies.

The drive to publish the outcomes of individual consultants began as a result of the Bristol affair, which, of course, related to outcomes after surgery for congenital heart disease. To date, only detailed outcomes for adult cardiac surgery have been published nationally, although some units do go into much greater detail on their own websites. Should other subspecialties take the same approach? The validity of using coronary surgery as one of the indicators of the performance of a cardiac surgeon relies on two important features of this operation: (1) that it is performed in sufficient numbers by most cardiac surgeons and (2) that a robust risk stratification system be developed to balance out differences in case mix. Percutaneous coronary intervention meets the numbers criteria, but does not have such a well-developed risk stratification system as EuroSCORE. Although major adverse cardiac and cerebral events are well accepted as appropriate measures of performance by the profession, they do not provide such a well-understood outcome measure as mortality does for CABG.

What about congenital cardiac surgery? Data on the outcomes of surgery for congenital heart disease have already been submitted to the Central Cardiac Audit Database, but should surgeon-specific outcomes be published? I would argue not. The complexities of diagnoses and the variety of valid surgical approaches make this different from the relatively homogeneous group of patients undergoing CABG operations. This would make meaningful comparison between individual surgeons difficult, and the small numbers involved for any one surgeon exacerbates the problem. Does this mean that such data should not be available to the public? No, this would not be appropriate, but I would argue that the outcomes of each unit should be published rather than those of each surgeon—all surgery is a team game, but congenital heart surgery requires a team approach to a much greater extent than most other disciplines. So how can the performance of individual surgeons be evaluated? The answer is by local audit strengthened by the multiunit approach of the North West Quality Improvement Programme.

Competing interests: None declared.

REFERENCES

1 **Bridgewater B**, Grayson AD, Brooks N, *et al*. Has the publication of cardiac surgery outcome data been associated with changes in practice in northwest England: an analysis of 25 730 patients undergoing CABG surgery under 30 surgeons over eight years. *Heart* 2007;**93**:744–8.
2 **Oo AY**, Grayson AD, Rashid A. Effect of training on outcomes following coronary artery bypass graft surgery. *Eur J Cardiothorac Surg* 2004;**25**:591–6.

IMAGES IN CARDIOLOGY

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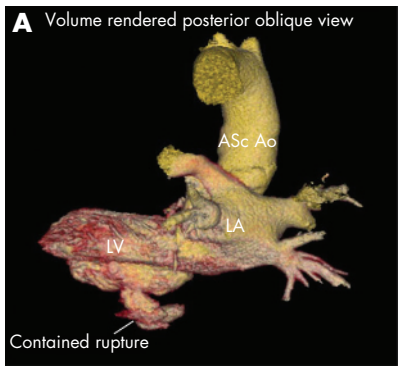
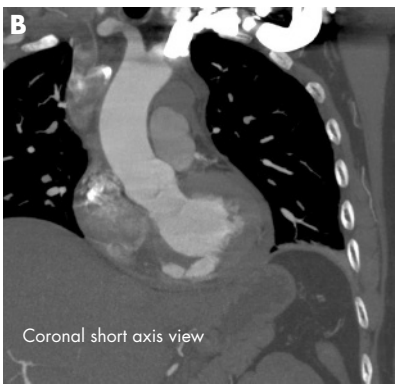
Post myocardial infarction left ventricular free wall rupture diagnosed by multidetector computed tomography

A 63-year-old man was admitted to an institution with symptoms and electrocardiogram signs consistent (central chest pain and inferior lead ST segment elevation) with inferior myocardial infarction. He had undergone immediate (paramedic administered) thrombolysis after a brief period of third-degree heart block and seemed to be recovering well.

Approximately 24 h after admission (26 h after onset of chest pain) his condition deteriorated, with worsening chest and back pain associated with hypotension. Transthoracic echocardiography showed moderate left ventricular function. A chest *x* ray showed widened mediastinum. Given a past history of hypertension and plain film findings, non-electrocardiogram-gated multidetector computed tomography of the thorax was performed. The immediate findings were mediastinal blood to the level of the aortic arch, a pericardial effusion and a possible thrombosed aortic dissection flap at the level of the arch.

At this time (48 h after admission), he was transferred to the Department of Clinical Radiology, Plymouth Hospital NHS Trust, Plymouth, UK. On arrival, transthoracic echocardiography showed moderately impaired left ventricular function (ejection fraction 40–45%), reasonable right ventricular function, normal mitral and aortic valve function, and 1.5 cm pericardial effusion. Sixty-four slice multidetector computed tomography (MDCT) was repeated and showed an inferior left ventricular rupture (panels A, B). Unfortunately, the patient's condition deteriorated and he died after a pulseless electrical activity cardiorespiratory arrest.





A review of the datasets from the original scan showed the extravasations of contrast from the inferior left ventricular wall. This shows that MDCT has a role in cases such as this: in this instance, proving superior to transthoracic echocardiography. It also serves to remind radiologists that with currently available technology intracardiac pathologies can be visualised only if they are considered.

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